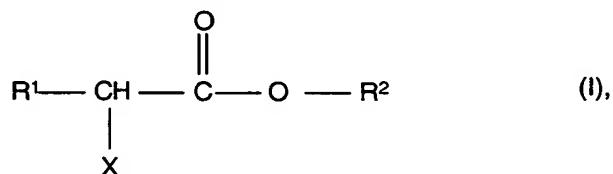


We claim:

1. A process for preparing optically active 2-amino-, 2-chloro-,
2-hydroxy- or 2-alkoxy-1-alkanols by catalytically
hydrogenating appropriate optically active 2-amino-,
2-chloro-, 2-hydroxy- and 2-alkoxycarboxylic acids or their
acid derivatives, which comprises carrying out the
hydrogenation in the presence of catalysts comprising
palladium and rhenium or platinum and rhenium.
2. A process as claimed in claim 1, wherein optically active
2-amino-, 2-chloro-, 2-hydroxy- or 2-alkoxycarboxylic acids
or their esters of the formula I



where the radicals are defined as follows:

- R¹: straight-chain or branched C₁-C₁₂-alkyl,
C₇-C₁₂-aralkyl or C₆-C₁₀-aryl, each of which may be
substituted by NR³R⁴, OH, COOH and/or further groups
stable under the reaction conditions,
- R²: hydrogen, straight-chain or branched C₁-C₁₂-alkyl or
C₃-C₈-cycloalkyl,
- X: chlorine, NR⁵R⁶ or OR⁷,
- R³, R⁴, R⁵ and R⁶:
each independently hydrogen, straight-chain or branched
C₁-C₁₂-alkyl, C₇-C₁₂-aralkyl, C₆-C₁₀-aryl, C₃-C₈-cycloalkyl
or C₃-C₈-cycloalkyl in which one CH₂ group is replaced by
O or NR⁸,
- R³ and R⁴ and also R⁵ and R⁶:
also each independently together -(CH₂)_m-, where m is an
integer from 4 to 7,
- R¹ and R⁵:
also together -(CH₂)_n- where n is an integer from 2 to 6,

11

R⁷: hydrogen, straight-chain or branched C₁-C₁₂-alkyl or C₃-C₈-cycloalkyl,

R¹ and R⁷:

- 5 also together $-(CH_2)_n-$, where n is an integer from 2 to 6 and

R⁸: hydrogen, straight-chain or branched C₁-C₁₂-alkyl, C₇-C₁₂-aralkyl or C₆-C₁₀-aryl,

10

or their acid anhydrides are used and hydrogenated to the corresponding optically active alcohols.

3. A process as claimed in claims 1 and 2, wherein the
15 palladium/rhenium or platinum/rhenium catalysts comprise at least one element from the group of the elements titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, zirconium, molybdenum, silver, tin, tungsten, lead, lanthanum and cerium.
- 20 4. A process as claimed in claims 1 and 2, wherein the palladium/rhenium or platinum/rhenium catalysts comprise at least one element from the group of the elements silver, molybdenum, tungsten and tin.
- 25 5. A process as claimed in any of claims 1 to 4, wherein the palladium/rhenium or platinum/rhenium catalysts are used unsupported or applied to a support.
- 30 6. A process as claimed in any of claims 1 to 5, wherein the weight ratio of the elements palladium or platinum to rhenium is from 100:1 to 0.01:1.
- 35 7. A process as claimed in any of claims 1 to 6, wherein the weight ratio of the elements palladium or platinum to rhenium is from 50:1 to 0.05:1.
- 40 8. A process as claimed in any of claims 1 to 7, wherein the weight ratio of the elements palladium or platinum to the at least one further element of the catalyst is from 100:1 to 10:1.
- 45 9. A process as claimed in any of claims 1 to 8, wherein the hydrogenation is carried out in the presence of an acid.

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10. A process as claimed in any of claims 1 to 9, wherein the hydrogenation is carried out at a temperature of from 30 to 140°C.

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